

ABSTRACT OF THE DISCLOSURE

The present invention is intended to record image data having a wide dynamic range in a file together with image data having a narrow dynamic range. First, an image recording apparatus separately gradation-converts image data to be recorded into primary data having a narrow dynamic range and secondary data having a wide dynamic range. Then, the image recording apparatus calculates data that determines correlation between the primary data and secondary data and employs the calculated data as tertiary data. The image recording apparatus records the primary data and the tertiary data in a file. On the other hand, an image reproducing apparatus reads out primary data and tertiary data that were recorded in the above manner and reproduces secondary data having a wide dynamic range based on the primary data and the tertiary data.